

Geographic Information Systems: Enabling Community-Based Climate Change Actions

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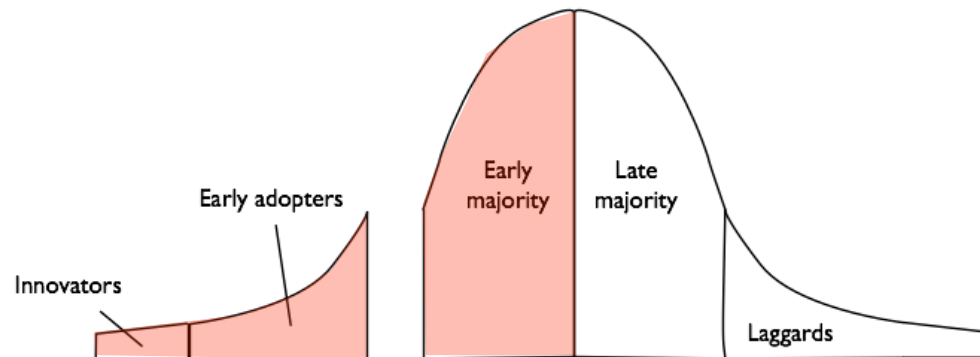


Agenda

- GIS Trends
- Supporting Sustainability
- Lessons Learned
- Opportunities

Internet GIS Trends

- Crossed the “chasm” – Internet GIS moving from a niche technology to mainstream
- Many sites (i.e. “mashups”) available to view static data
- User interface learning curve is greatly reduced



Source: Geoffrey A. Moore's *Crossing the Chasm*

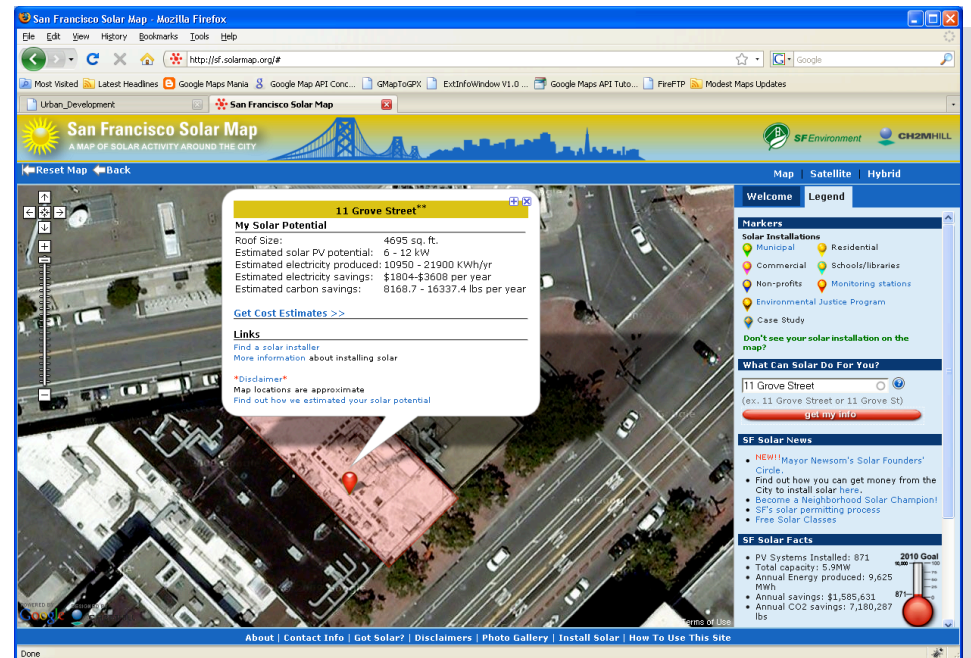


Supporting Sustainability

- Educate Citizens
 - Solar Map
- Scale Activities
 - EcoMap
- Community Planning
 - Masdar City

Educate Citizens: Solar Map

- Inform city residents who has PV installed
- Provide rooftop estimates of PV potential for residents
- Highlight case studies
- Integrate 3rd party web services
- Single location for City's solar related activities



<http://sf.solarmap.org>

Scale Activities: EcoMap

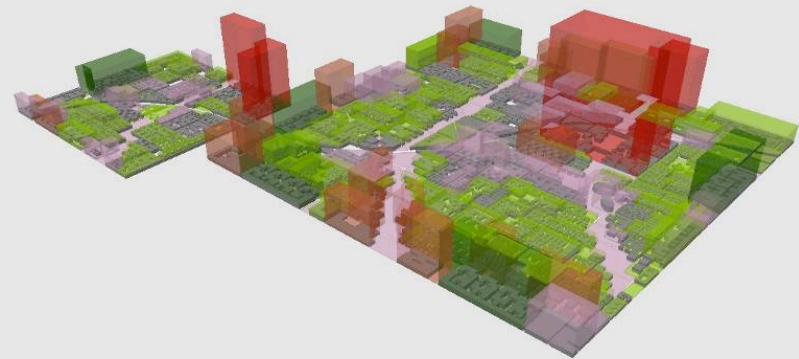
- Bring a global problem to a local scale
- Compare activities between postal codes



- Minimize user data entry
- Recommend alternative actions based on activities

Community Planning: Masdar City

- Generating land use/energy consumption scenarios and evaluating long-term outputs
- Output displayed spatially and temporally depicting seasonal trends
- Using GIS to communicate information visually... a universal language





Lessons Learned

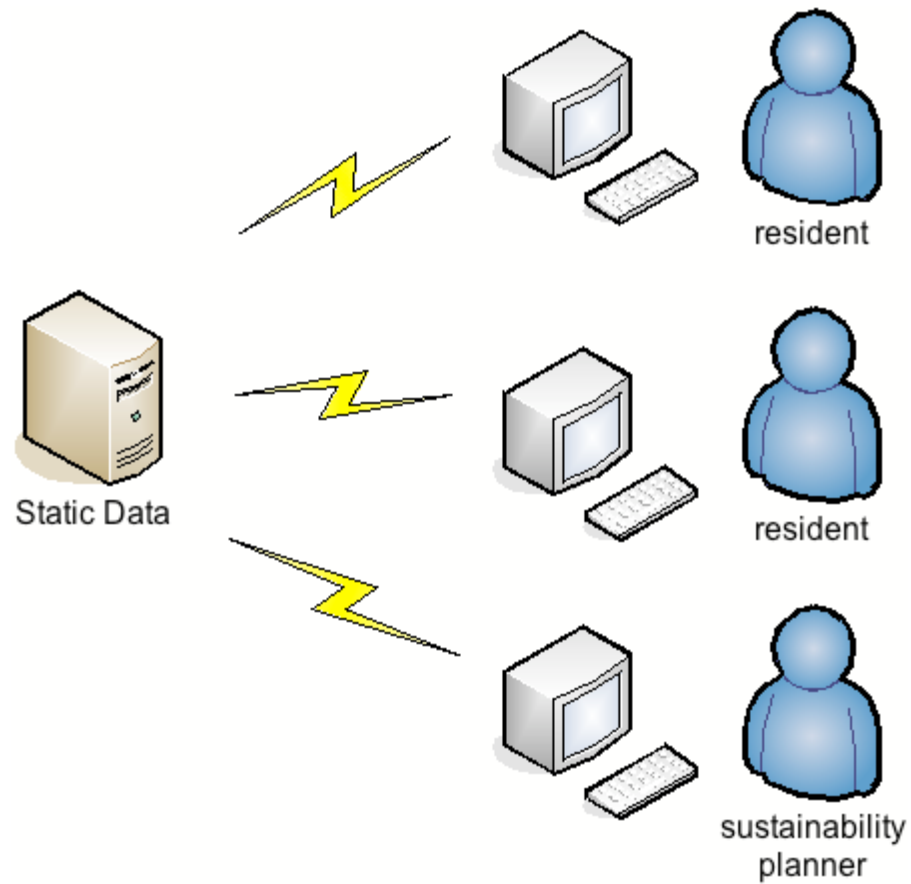
- These tools have been well received by the public
- Challenges
 - Causal relationships are difficult to quantify
 - Finding a good “information balance”
 - Difficult to manage data at the local scale



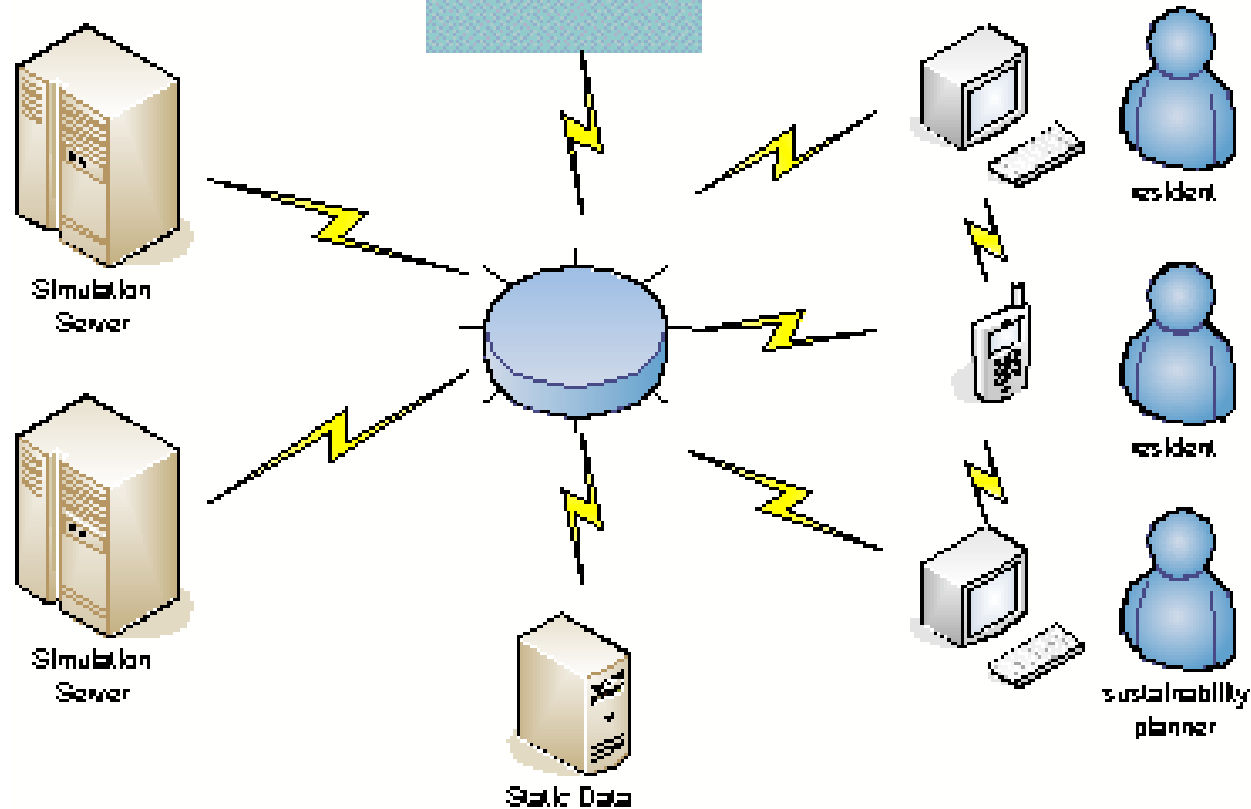
Opportunities

- Integrate advanced modeling and simulation tools into public-facing sites
 - Utilize remotely sensed data to develop input to simulation models
- Expand capabilities to include scenario driven analysis
 - Create spatially explicit scenarios
 - Evaluate “what if” analysis
 - Optimize the location of actions

Current Approach



Future Approach



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